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The Role of Trade Strategies for Economic Development

A Comparison of Foreign Trade Between Turkey and South Korea

In the 1950s, South Korea (henceforth Korea) and Turkey started out from different levels of economic development. Although there were some unique similarities between the two countries, it was obvious that initially Turkey was more of an advanced country than Korea in economic terms.

Table 1 provides basic data on the growth and transformation of the Korean and Turkish economy for the 1955 to 1998 period. By 1955, with about the same population (around twenty million), Turkish per capita income was three times than that of Korea. Both countries had the same economic structure, and agriculture was playing a dominating role within the economy. Turkish exports were fifteen times those of Korea, and the Turkish savings rate was much higher than Korea. Moreover, Korea is land scarce and Turkey is land-abundant with more generous resource endowment, both in terms of land per person in agriculture, and in terms of other natural resources.¹

During the 1950s, Turkey was one of the most auspicious countries among others, whereas Korea was occupied and exploited by Japan from 1910 until 1945. The country was divided and heavily destroyed during the Korean War in 1953. Since then, the situation has changed in a radical way and Korean per capita income was more than two times higher than that of Turkey (see Table 1) by 1998. The share of Turkish export in gross national product (GNP) was almost 50 percent below Korea's. The Korean economy could have realized the structural change from the agricultural sector to an industrial one faster than Turkey.

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Table 1

Main Indicators of Economic Performance

	Turkey ^a					Korea ^a				
	1955	1970	1980	1990	1998	1955	1971	1981	1991	1998
Population (million)	22.4	35.6	44.7	56.4	63.4	21.4	32.9	38.7	43.3	46.0
GNP per capita (\$)	210	370	1,237	1,884	3,259	70	252	1,592	5,883	7,970
Sectoral share in GNP										
Agriculture	41.9	30.0	21.7	16.5	18.5	44.0	27.2	17.4	8.5	6.0
Industry	14.2	22.0	26.5	26.9	19.2	11.2	17.5	32.4	36.8	43.0
Services and others	38.1	42.0	46.7	51.1	62.3	41.0	55.3	50.2	54.7	51.0
Foreign trade ^b										
Export (% of GNP)	5.9	5.2	4.6	12.6	13.2	n.a.	11.6	31.9	25.6	38.0
Import (% of GNP)	8.4	7.4	12.9	19.4	22.4	n.a.	25.2	29.1	29.0	46.0

Sources: Bank of Korea, “National Income Statistics” (various dates); OECD, “Surveys for Turkey” (various dates); State Planning Organization (DPT), “First Year Development Plan, 1963–1967” (1964); HDTM, “Main Economic Indicators” (various dates); World Bank, “World Development Report 1999–2000” (2000).

^a Industry includes manufacturing and mining.

^b Based on current prices.

This paper examines the importance of different development strategies—inward- or outward-looking industrialization processes—in foreign trade in Korea and Turkey. In other words, we attempt to demonstrate the importance of the different development strategies pursued by both countries in the same period and to explain their effects on foreign trade and international competitiveness. Finally, we draw some lessons from Korean and Turkish experiences.

Economic Development Policies

Economic Policies in Turkey

The inward-looking development strategy and protectionism became the mode for most developing countries during the 1930s, and this development strategy changed little after World War II.² Turkey and many other developing countries had to pursue the same development strategy, which aimed to realize the industrialization behind protective walls of tariffs and import quotas as a means of saving foreign exchange for debt payments and import expenditures.

It was a widely held view that rapid industrialization can only be achieved with the help of the import substitution policy, which emphasized light and later heavy industry, producing, in the early stages durable consumption goods and, throughout time, intermediate and capital goods. Second, Turkey, as many other developing countries, was favorably impressed and influenced by the perceived success of the Soviet Union in rapid economic development, based on the industrial sector, in a short period without any significant external assistance.

After an initial period of relatively free trade policies in the 1920s and very low overall growth, the government decided to introduce a policy of “Etatism” in the 1930s. Within the framework of the new development philosophy and policy, the government then in power started to heavily intervene in the economy. It helped launch and sustain an inward-looking strategy, taking into consideration the initial conditions in structure and industrial organization.

Indeed, in the 1930s, Turkey had to cope with a huge amount of structural and institutional problems. There was a shortage of entrepreneurs and managers to undertake activities in private sectors. The private sector had little of both domestic and foreign markets. As a matter of fact, it assigned a leading and dominant role for the state in economic development with key industries such as manufactured goods, textiles, railways, telecommunications, and the energy sector.

Under the new state-led and inward-looking development strategy, a number of State Economic Enterprises (SEEs) were established in Turkey, which mainly produced and marketed a variety of agricultural, mineral, and manufactured commodities. Many of these SEEs produced manufactured goods that had previously been imported. Protectionist measures were put in force to protect the infant industries from international competition. Throughout the years, the importance of the SEEs and its share, either in total production or in total employment, grew steadily.

From the 1930s until 1980, the inward-looking development strategy played a major role and was pursued vigorously by all Turkish governments for more than half a century. Nevertheless, Turkey has succeeded in building a well-diversified industrial structure. It has been producing a far greater variety of industrial goods, including intermediate and capital goods, than most developing countries. The country has also succeeded in eliminating poverty, improving education, health, and the nutritional status of its population, though regional inequalities in income remain and may even be increasing during the whole development process.

However, it should be noted that these achievements have been obtained at a high cost. The diversified industrial structure, in most if not all cases, is not internationally competitive in cost and quality of output. Most of the industries in the public sector have yielded negligible returns and they have been exceptionally overemployed.

Although it was obvious that the inward orientation was creating a domestic industry behind a high protective barrier of tariffs, quotas, and licenses, and allows the inefficient use of resource allocation, inflexible labor markets dominated by state and price distortions in the economy, it was not seriously questioned by either the private sector or policymakers as well academicians until 1980.

In the late 1970s and early 1980s, Turkey's policymakers recognized that inward orientation led the economy to the economic and social crises that regularly repeated within every ten-year period, which ended in a "Stand-by Agreement" with the International Monetary Fund (IMF). It was immediately followed by military coups d'état in 1960, 1971, and 1980. The last huge external financing difficulties, which arose from "the first and second oil shocks" in the 1970s, provided an opportunity for reformers to advance their plans for economic liberalization.

In January 1980, the government announced, under pressure of the IMF and the World Bank, a series of far-reaching reforms starting with massive devaluation and an announcement that henceforth there would be frequent adjustments in the exchange rate to keep pace with differentials between domestic and foreign inflation. Moreover, prices of outputs in public sector enterprises were increased sufficiently to reduce their deficits and thus sharply cut the size of the public sector deficit. Also, foreign trade reforms were coordinated with a radical shift of policies away from market intervention, import reliance on market forces, and trade liberalization.

It was also expected that the outward orientation could bring some benefits for the Turkish economy such as improved resource allocation in line with social marginal costs and benefits; access to better technologies, inputs, and intermediate goods; an economy better able to take advantage of economies of scale and scope; better education and training; greater domestic competition; and the increase in employment of highly skilled labor in the production process.

Unfortunately, on grounds of populist and inconsistent policies pursued the "two steps forward and one step backward" sequence, the outward-looking devel-

opment strategy put in force in 1980 has been interrupted by significant mistakes made by Turkish policymakers in the 1990s. Today, inflation and unemployment remain a major concern of the Turkish economy once again.

Economic Policies in Korea

Korea's postwar economic history can be divided into four phases corresponding to changes in the development strategy and economic policy regime.³

After the Korean War, the country faced the common economic features of an undeveloped country, rapid inflation, low level of savings and investments and balance-of-payments difficulties, external borrowing requirements, a scarcity of basic consumption goods, and lack both experience and efficient administrative structure. During the period 1955–1961, as with other developing countries, industrial policy focused on import substitution of nondurable consumer and intermediate goods. The Korean economy was heavily dependent on a large inflow of U.S. foreign aid.

Kuznets points out that there were certain changes taking place during this period, which, whether intentionally or not, laid the manufacturing base needed to launch an export-promotion strategy (see Kuznets 1988). For instance, entrepreneurial experience was accumulating with the establishment of a number of new enterprises, education at all levels was expanding rapidly. Land reform in Korea also helped bring about equality of opportunities.

By the early 1960s, sufficient changes had occurred for Korea to be ready for takeoff and industrial development. Of these, changes in land ownership, less costly but well-educated labor force, and entrepreneurial capability were especially important. At the beginning of the 1960s, the Korean government switched the economy from import substitution to export promotion. It was designed to utilize the nation's comparative advantage in labor-intensive manufacturing goods.

In the 1970s, Korea faced political and economic changes that convinced policymakers in Seoul to shift economic policy from general export promotion to targeting heavy and chemical industries (HCI). One of the reasons was that, by the late 1960s, Korea began to face import restrictions on labor intensive and light manufactured exports to the United States and other developed countries. At the same time, the country faced serious challenges from China and Newly Industrialized Countries (NICs) for labor-intensive products in the world markets. Ultimately, the Korean government decided to establish the HCI as the next group of leading industries.

By 1979, the government faced serious economic problems: high inflation, a rem of trade loss stemming from the second oil shock and over investment. A macroeconomic stabilization plan was accompanied by a liberalization of structural policies. Important changes occurred in policies governing financial markets, international trade, foreign direct investments, and privatization and competition law. Furthermore, labor laws and industrial relations were changed,

allowing a sharp increase in the number of unions and members, but also leading to a rising number of disputes.

In connection with these highlights, Korea followed “market and growth” friendly macro/microeconomic policy, encouraged savings, and favored investments in physical and human capital, through low-budget deficits and inflation. Exports of manufacturing goods were promoted.⁴ In contrast, Turkey lived with the import-substitution policy over the decades and has only since 1980 opened its economy with a go-stop policy.

Development of Foreign Trade in Korea and Turkey

By 1954 the total export of Korea amounted to around \$18 million, whereas Turkey was exporting almost \$335 million in the same year. The ratio of exports to Korean GNP was only 2.4 percent as of 1962, but it rose to 11.6 percent in 1971, and to around 30 percent in the 1998. The share of export in Turkish GNP accounted already was 6.0 percent as of 1962 and had a decreasing tendency and dropped to 4.2 percent in 1980. Export started to increase due to fundamental changes in the Turkish foreign trade regime introduced in 1980 and reached to 13.2 percent in 1998.

As far as the distribution of Korean and Turkish foreign trade into regions is concerned, both countries are involved in trade with different regions and markets of the world. The OECD and the EC/EU countries were, for Turkey, concerned in the important markets since the 1950s, whereas North America, especially the United States, was the favored market for Korean production.⁵

The amount of trade (imports plus exports) between Turkey and the OECD, including EU countries, grew all the time. Germany was and still is the most important trading partner of share and the United States in Turkey’s foreign trade seems to be insignificant. At this stage of trade no other markets in the region could challenge and replace the markets of the European Community. The economic links between Turkey and the European Union would intensify with the entrance of Turkey into the Customs Union in 1996. On the other hand, the Korean market share in North American markets began to increase after 1983 and peaked in 1988. Afterward, it shows the decreasing tendency for two main reasons: made in China and other NICs; and second, the recession in the United States and the protectionist measures from the United States. Immediately, Korea replaced its export markets from North America to Asian NICs and Association of Southeast Asian Nations (ASEAN) in order to neutralize its market share loss in the NAFTA through market diversification (Lee 1995).

Methodology

In order to measure and calculate the competitiveness of both countries in trade as a whole and manufactured trade, we use the following indices:

1. *Revealed Comparative Advantages (RCAs)*, using Bella Balassa's and there-after-modified formula (1965).⁶
2. *Comparative Export Performance Formula*.⁷
3. For the calculation of the overall importance of intra-industry in comparison with inter-industry specialization in international trade, including the economy as a whole and manufactured sector for Korea and Turkey, we have used the *Country-specific Trade Overlap (TO) formula* (Finger and De Rosa 1979).⁸

To realize all of these purposes, the manufacturing trade sector values are also classified (see the Appendix) in five different groups:⁹

Raw material-intensive goods (SITC 0, 2, 26, 3–35, 4, 56)
 Labor-intensive goods (SITC 26, 6–62, 67, 68, 8–87, 88)
 Capital-intensive goods (SITC 1, 35, 53, 55, 62, 67, 68, 78)
 Easy imitable research-intensive goods (SITC 51, 52, 54, 58, 59, 75, 76)
 Difficult imitable research-intensive goods (SITC 57, 7–75, 76, 78, 87, 88)

The development and distribution of Korean and Turkish foreign trade according to sub-sectors are also reported in the Appendix.

Empirical Results

Revealed Comparative Advantage (Specialization Structure)

As a first step, we attempt to measure the international competitiveness of Korea and Turkey with the help of RCA indices and comparing the two. Taking exports and imports together in consideration, RCAs describe a comparative advantage or disadvantage in international trade. The disaggregation of exports indicates where the domestic industries display international competitiveness and the disaggregation of import shows wherein such uncompetitiveness lies.

RCA indices have been calculated using the following formula (Balassa 1965):

$$RCA = \ln \left[X_i / M_j \right] \left(\frac{\sum_{i=1}^n X_i / \sum_{i=1}^n M_i}{\sum_{i=1}^n X_i / \sum_{i=1}^n M_i} \right) \times 100, \quad (1)$$

where X and M denote exports and imports, respectively, and i refers to a group at a one- (or two-) digit SITC level. The higher (lower) the RCA index, the more (less) successful the trade performance of the country in question is in a particular area of industry. RCA indices have been computed for the years 1977 to 1996.

It is well-known that RCA indices describe the trade patterns that have taken place. They are calculated on actual export and import flows. The empirical results (Table 2) of RCA indices for Korea and Turkey reflect the stages of the economic development and their position in international trade. This index is useful

Table 2

The Revealed Comparative Advantage: Sorted SITC Code (1977–1996)

Year	Raw material		Labor-intensive goods		Capital-intensive goods		Easily imitated goods		Difficult to imitate goods	
	K	TR	K	TR	K	TR	K	TR	K	TR
1977	-112	41	155	174	-29	-22	-50	-194	-60	-335
1978	-118	16	160	191	-32	8	-35	-267	-68	-346
1979	-129	9	165	184	24	31	-27	-287	-71	-268
1980	-160	-14	169	185	70	50	-15	-147	-44	-184
1981	-173	-18	169	184	69	52	-21	-202	-28	-161
1982	-188	-13	153	185	77	55	-39	-204	-1	-161
1983	-163	-14	148	178	44	31	-30	-190	-2	-146
1984	-155	-19	141	184	40	34	-21	-216	-10	-163
1985	-153	-36	145	170	47	49	-12	-167	-17	-122
1986	-143	14	136	170	34	11	-8	-163	-55	-196
1987	-147	-17	133	156	31	-18	7	-122	-67	-92
1988	-155	-5	130	144	33	9	3	-103	-57	-162
1989	-160	-32	132	156	22	17	10	-82	-50	-201
1990	-174	-29	127	147	24	14	19	-84	-39	-192
1991	-162	-8	118	139	12	10	24	-104	-28	-187
1992	-170	-12	111	136	42	4	36	-114	-27	-162
1993	-177	-10	103	131	51	5	32	-113	-20	-175
1994	-174	-22	90	121	31	30	32	-113	-10	-151
1995	-137	-21	58	57	5	-48	13	-192	-21	-203
1996	-127	-46	44	23	15	-79	19	-205	-25	-214

Source: United Nations, *Yearbook of International Trade Statistics*, various dates.

for understanding the trade pattern and the structure of comparative advantage.¹⁰ The empirical results of RCAs indices are interpreted separately below.

During the 1980s, Korea's comparative advantage in international market changed dramatically and Turkey's specialization structure made essential progress, especially after switching the development strategy outward in 1980. In other words, the range between the index values of the greatest comparative advantage and those of the greatest comparative disadvantage has narrowed the rank order. As evidenced by the results, Korea and Turkey had a dominating comparative advantage in labor-intensive goods. This was playing a leading role in the economic development of the two countries. In the observed time period, trade structures of both economies were based mainly on labor-intensive goods and partly on capital-intensive goods.

It is interesting to note that Korea's comparative advantage in labor-intensive products has had a decreasing tendency since 1977, whereas its dependency on raw materials has increased steadily throughout that time. This fact can be explained by two factors. First, in 1988, Korea's market share had already reached its peak in the U.S. market, and afterward it began to decrease because of the rushing of products exported by China and Asian NICs and ASEAN into the North American markets. Second, the recession in the United States and protectionist measures taken by the U.S. government have contributed of Korea's loss of competitiveness in these markets. However, the Korean economy reacted very quickly and the loss in North America has been compensated and supplemented by the increased market share in Asian NICs and ASEAN due to market diversification policies and the rapid economic growth of these countries. Turkey's major export market is as before the EU market. At the same time Turkey has also faced a hard competitive pressure by the NICs exporting labor-intensive products and having import restrictions introduced by the European Commission. Therefore, the comparative advantage concerning labor-intensive products began to go down slightly.

It is clear that Korea has a great disadvantage in trade with raw materials as compared to Turkey. The main reason is that both countries are non-oil-producing countries and are heavily dependent on crude oil import and an essential part of their imports consists of oil. In contrast to Korea, Turkey was able to set off the negative effects of oil imports by exporting primary products, mainly agricultural products. Even the strong position of Turkey in exporting agricultural products could not avoid comparative disadvantages in raw materials.

Besides labor-intensive goods, RCA indices show that Korea and Turkey, except in 1987 and 1992, also have comparative advantages in capital-intensive goods. But this group of goods does not play a dominating role within the trade of both countries as compared to the labor-intensive goods. Noticeably, the results do not indicate or give a clear-cut picture of what the future role of the capital-intensive goods in international trade will be and which pattern of specialization will be followed?

Findings for "easy (EIRG) and difficult (DIRG) imitable research-oriented goods" indicate that Korea and Turkey (except in 1987 and 1992) have comparative disadvantages, but in different ranges and degrees. Between the two countries,

Korea is the country that was able to push the export substitution further, and has been starting to replace labor- and capital-intensive goods for easy imitable goods starting in 1987. Now, Korea has gained the comparative advantage in EIRG. On the other hand, although since 1977, Turkey has succeeded in reducing its great disadvantage in EIRG, but it has not been able to pass into the comparative advantage zone.

As far as the DIRG are concerned, both countries obviously had comparative disadvantages. Korea had shown a great effort to reduce comparative disadvantages concerning these types of goods between 1977 and 1996. Turkey's position also made an essential improvement since 1977, but it is out of the question that the country is close to the position that Korea has already achieved. It is noticeable that the share of the DIRG in Korea and Turkey's imports is quite high. But Korea has successfully increased its share in total export since 1977. In other words, it seems that there is a close relationship between the import and export of the DIRG, whereas this relationship for Turkey seems to be insignificant and weak.

Comparative Export Performance

As a second step, we estimate the structure of international competitiveness for Korea and Turkey for 1980, 1985, and 1996. With that, we intend to, first, avoid the impact of distorted results of RCAs caused by trade interventions and, second, to find out if the findings of comparative export performance (CEP) support our earlier RCA results. In order to realize our purpose, the manufacturing trade sector has been broken up and simplified into a one-digit commodity (SITC 0–9). For the estimation of CEP coefficients, the following formula is used:

$$CEP = (X_{ij} / X_{iw}) / (\sum X_{ij} / \sum X_{iw}), \quad (2)$$

where j and w refer to the country in question and the world, respectively. Index values above (below) unity means that the particular sectors have a greater (lower) share in total exports of the individual country than they have in the world as a whole. Thus, the country in question possesses a relative advantage (disadvantage) in the export of these products.

The results for CEP are summarized in Table 3 and give us the opportunity to draw the following conclusions for main sectors. To begin with, Turkey appears to lead in the export of agricultural products (SITC 0) and capital-intensive goods, such as beverages and tobacco (SITC 1). Turkey has been able to reduce comparative disadvantages due to increasing export performance in animal and vegetable oils (SITC 4) since 1980. Compared with 1980, Turkey made essential progress in exports of manufactured goods (SITC 6 and 8), which are mainly considered as labor-intensive goods. It seems that Turkey has advanced more in textiles (SITC 6.5) and in clothing (SITC 8.4) in trade with the world. As the results show, the

Table 3

Comparative Export Performance: SITC (0–9)

Code	1980		1985		1988		1996	
	K	TR	K	TR	K	TR	K	TR
0 and 1	0.72	4.94	0.44	2.7	0.42	2.54	0.08	0.29
2	0.29	3.11	0.18	1.40	0.20	1.17	0.28	0.12
3	0.01	0.06	0.16	0.24	0.10	0.30	0.51	0.04
4	0	0.40	0	1.27	0	1.60	0	0.46
5	0.60	0.36	0.38	0.47	0.33	0.88	0.31	0.03
6 and 8	2.67	0.89	2.04	2.01	1.78	1.76	1.05	0.39
7	0.78	0.10	1.18	0.25	1.18	0.18	0.70	0.03

Source: United Nations, *Yearbook of International Trade Statistics*, various dates.

Turkish economy had disadvantages in mineral fuels (SITC 3), chemicals, and machinery and transport equipment (SITC 5 and 7).

In the case of Korea, the results show that the Korean economy has lost the relative weight of its initial export performance in agricultural products, crude materials, and animal and vegetable oils (SITC 0, 2, 4), as well as chemicals (SITC 5). Again, as with Turkey, Korea has had disadvantages in mineral fuels (SITC 3). It has kept its relative competitiveness in the basic and miscellaneous manufactured goods (SITC 6 and 8) with a decreasing tendency, whereas it has been able to improve its export performance with respect to manufactured products, machinery, and transport equipment (SITC 7). Again CEPs also show that Korea, in fact, is an economy that is on the way to complete the second (labor-intensive goods) stage of export substitution and export diversification processes. It has achieved a relative advantage compared to Turkey in the export of investment goods in trade with the world.

In short, in the case of both countries, the patterns of RCAs, based on import-export ratios, are generally confirmed by the CEPs. It can be argued that both countries are now in the different stages of export diversification policies. There are some certain similarities between Turkey and Korea concerning “early industries” such as textiles, wearing and footwear but Korea has already achieved a favorable export performance in world trade in some “easy and difficult imitable research intensive goods,” whereas Turkey has revealed a more favorable export performance mainly in the “raw materials-oriented goods” such as agricultural products, “capital intensive goods” such as food industries, and “labor-intensive goods” such as textiles.

Table 4

Trade Overlap Coefficients (total)

	1987	1988	1989	1990	1991	1992	1995	1996
Korea	0.46	0.48	0.50	0.52	0.56	0.57	0.76	0.77
Turkey	0.41	0.43	0.46	0.43	0.41	0.41	0.50	0.49

Intra- and Inter-Industry Trade: Trade Overlap

As a further step, we consider the overall importance of intra-industry in comparison to inter-industry specialization for Korea and Turkey in international trade. As it is known, world trade in monopolistic competition consists of two parts. There is two-way trade within the manufacturing sector. This exchange of manufactures for manufactures is called intra-industry trade and an exchange of manufactures for food is called inter-industry trade.

The intra-industry trade implies how and to what extent the country in question is already integrated into the world market and the degree of liberalization in which the economy has already specialized throughout the economic development process.

In order to calculate the coefficients of a country specific TO, the following formula (Finger and De Rosa 1979) has been used:

$$TO = 2 \sum_{i=1}^n \min(X_i, M_i) / \sum_{i=1}^n (X_i + M_i), \quad (3)$$

where X_i and M_i refer to exports and imports, respectively, of which the SITC 0–9 production sectors i , and \min defines the magnitude of the total trade, which overlaps in dollar terms. The coefficient can vary between zero to one. The closer it comes to unity, the more intra-industry specialization there is. A lower coefficient implies that trade takes the form of inter-industry specialization.

The TO results for Korea and Turkey with the world have been considered in two parts. In the first part, it shows the TOs as a whole, and in the second part, according to our SITC classification, which are represented in Tables 4 and 5.

The TO coefficient as a whole for Turkey is lower than Korea between 1987 and 1996 and TOs for Turkey remained almost unchanged since 1987. This means that Turkey in trade with the world mainly reflects inter-industry specialization. The TO results for Korea are slightly higher than Turkey. It is obvious that Korea made a remarkable improvement to increase TOs since 1987 and at this stage the Korean economy occupies an intermediate position.

Table 5

Trade Overlap Coefficient According to Subgroups

Year	Raw materials		Labor-intensive goods		Capital-intensive goods		Easy to imitate research-oriented goods		Difficult to imitate research-oriented goods	
	K	TR	K	TR	K	TR	K	TR	K	TR
1987	0.34	0.29	0.30	0.38	0.55	0.67	0.42	0.35	0.74	0.45
1988	0.36	0.32	0.31	0.44	0.50	0.77	0.44	0.45	0.80	0.28
1989	0.32	0.40	0.35	0.43	0.61	0.78	0.44	0.49	0.76	0.19
1990	0.27	0.40	0.40	0.52	0.62	0.67	0.48	0.40	0.77	0.16
1991	0.30	0.29	0.47	0.54	0.64	0.72	0.51	0.37	0.80	0.18
1992	0.29	0.29	0.48	0.50	0.57	0.72	0.52	0.34	0.83	0.23
1995	0.14	0.69	0.33	0.67	0.45	0.84	0.45	0.27	0.48	0.26
1996	0.15	0.56	0.36	0.82	0.42	0.70	0.45	0.23	0.49	0.26

Source: United Nations, *Yearbook of International Trade Statistics*, various dates.

As far as the subsectors are concerned, Turkey has only intra-industry specialization in capital-intensive goods and partially in labor-intensive goods. In other groups of goods Turkey shows the characteristics of an inter-industry trade with the world.

Korean economy indicates the features of intra-industry trade in the difficult imitable research goods and partially in easy imitable research goods. It seems to be the best way to realize the full intra-industry specialization concerning this type of goods in trade with the world, whereas in the other groups it demonstrates the typical industrialization patterns of developing countries.

As it is known, the relative importance of intra- and inter-industry depends on the similarity of countries and how similar the capital labor ratios are. If they are different, there will be a relatively low level of intra-industry trade and it will be based on comparative advantage. However, it must be remembered that models of imperfect competition can explain intra-industry trade but cannot by themselves explain why some countries are net exporters of certain manufactures and net importers of other goods. Therefore, the results of TO must be combined and interpreted with RCAs to explain the whole trade pattern.

Conclusion

It is commonly accepted that the manufacturing sector is the leading and dominating sector and beyond that it is one of the main determinants of economic growth rates, employment growth rates, and growth rates of productivity in an economy. It seems to be obvious that the rapid growth of Korean GNP was closely associated with rapid export growth, which, in turn, pushed the rapid growth of employment. The close relationship between economic growth and the growth rate of exports has already been proved by numerous empirical studies throughout time. For example, Krueger made partial explanations for the association between export growth and GNP growth in East Asian NICs (see Krueger 1990).

First, the results indicate that there is a strong contrast by implementation of the protectionism between Korea and Turkey. Korea followed export and import substitution policies at the same time and these were closely interrelated to one another. As Krueger underlined, Korean and other East Asian economies had highly protective trade regimes before they embarked on their export-oriented trade and development strategies, and by switching strategies from inward to outward they achieved gains by realizing their comparative advantage. The switching of trade strategy from inward- to outward-looking took place, not through trade liberalization or reduction of import protection ("free trade" route to outward orientation), but rather by enacting a strong set of export promotion measures to match anti-export bias created as a result of tariff and nontariff import barriers (a subsidy route to outward orientation).

On one hand, export activities occurred under free trade conditions and, additionally, export was promoted through a very complex system of trade incentives. On the other hand, import substitution industries are protected with the help of

various trade policies. Throughout the 1980s Korea introduced new trade reforms to reduce import protection and to liberalize its import regime to a large extent. This means that Korea implemented import liberalization and abolished the export subsidy route at the same time (see Nam 1993).

In contrast, Turkey's trade policy was heavily based on the protection of the import substitution industries and continued uninterrupted. There was no intention by policymakers in Ankara to shift trade strategy from inward to outward orientation until 1980. It is interesting to notice that despite some input subventions served to farmers in agricultural sectors, Turkey generally paid no attention to the export promotion measures and followed a one-way trade policy (Togan 1993, pp. 62, 169). In the 1980s, Turkey changed its trade policy so that import liberalization was selective, aggressively followed, and export promotion measures were put in force to encourage domestic producers to export their products.

Second, the chief difference between the two countries is that in Turkey protection was too comprehensive and too little attention was paid to the possibility of exporting manufactures to complement import substitution. Because of the inward-oriented development strategy, it is clear that Turkey has failed to take advantage of opportunities offered by growing world trade. In other words, Korea's "outward-oriented" strategy is the characteristic of its development most commonly singled out as the key to success. Rather than pushing inefficient import substitution for its small and domestic market, Korea has persisted in outward-oriented growth.

Third, it should be noted that there were different attitude patterns between Korean and Turkish politicians and administration. Korean policymakers were determined to maintain the macroeconomic stability over almost three decades and to switch the development strategy from import substitution to export substitution. By contrast, decisionmakers in Ankara aggressively pursued the import substitution policy without any intention of shifting the strategy from inward to outward. They did not take care of macroeconomic stability and pursued populist macroeconomic policies that engendered debt crises and hyperinflation. The trade reform in 1980 did not take place voluntarily or as a result of aimed export substitution policies, but due to pressure from the international organizations, which made trade liberalization a central condition for external lending.

Fourth, it is generally accepted that Korea is an export-led economy with exports as the engine of economic and manufacturing growth. As a result, Korean industrial production rose forty-five-fold between 1960 and 1984, whereas Turkish industrial production was 6.6 times higher in the same period (Krueger 1987, pp. 39ff). The growth of exports stimulates growth of investment, consumption, and import. It is argued that an increase in foreign demand determined a rapid expansion of Korea's exports and an improvement in the trade balance as well as national income and domestic savings. Obviously, there is a close relationship between export growth and gross domestic savings, which helped the country to realize higher levels of investment, especially in the export-oriented sectors. On the other hand, Korea was able to finance its import requirements for investment

goods with the help of export revenues. It is interesting to notice that Korea became a net capital exporter in the form of foreign direct investment after 1986. Therefore, the domestic savings ratio increased from only eight-tenths of 1 percent of GNP in 1960 to well over 20 percent in the late 1970s and around 36.2 percent in 1991 (Nam 1993, p. 11).

By contrast, Turkey's savings ratio remained almost at the same level, and the difference between gross domestic investment and savings was mainly set off by official external borrowing, where foreign direct investments were negligible and remained around 2 to 3 percent of the GNP. Domestic savings rose from 14 percent in 1960 to over 16.4 percent in 1983 and 23.7 percent in 1990 (Togan 1993, p. 14). Economic growth in Turkey was based, prior to 1980, on domestic demand and borrowing from abroad had been strong.

Fifth, in many research works it is argued that NICs in East Asia have had a strong outward orientation and therefore productivity growth. In order to understand the factors behind the growth of output in East Asian NICs and Turkey due to different trade strategies, it is necessary as a first step to compare annual growth of output per capita, which reflects standards of living and annual growth of output per worker in terms of labor productivity based on the data of 118 countries (Young 1994). As a second step, the "annual growth of total factor productivity" are compared for Turkey, Korea, and others. The crucial characteristic of Korea and other East Asian NICs is not that they have had remarkable rapid productivity growth in manufactures but, rather, they had successfully expanded investment and employment in manufactures and they were able to combine it with an export-oriented development strategy (Dornbusch and Park 1987, pp. 389ff.). Furthermore, their long-term oriented macro- and micropolicies were stable and based mainly on encouraged savings, with favoring investment in physical and human capital, through low-budget deficits and modest inflation. Exports of manufactures were promoted with gradual import competition. In general, factor accumulation, of both capital and labor, explains the lion's share of Korean economic growth, both in the economy as a whole and in the manufacturing sector. During the period 1963–1990, total factor productivity (TFP) increased at an average rate of 2.4 percent in Korea, accounting for about one-fourth of total output growth, which depends mainly on scale economies and advances in knowledge (Pilat 1993).

In contrast to Korea, Turkey has based its economic development on needs in the domestic market, and mainly concentrated itself on the protection, to some extent of its inefficient domestic industry from international competition. Growth of output was heavily determined by the accumulation of capital throughout the import substitution period.¹¹ It is remarkable that the contribution of capital to output growth was higher than labor input in Turkey in the period of outward orientation between 1980 and 1992. In this period, TFP increased at an average rate of almost 0.9 percent. Labor input expanded less rapidly during the 1980s. But the shares of investment were faster than labor input. It is noticeable that TFP growth was less than half of the growth of output. The success of the Turkish

economy could be explained partly by outward orientation in the 1980s. Another possible interpretation of this trend in TFP growth is a shift in labor from importable to export-oriented activities and, by that time, put idle capacity to use.

Sixth, one of the essential requirements of the outward-looking strategy, with rapid and sustained economic growth is the numbers of a well-qualified labor force and highly educated human capital accumulation. It is generally agreed that one of the cornerstones of Korean economic growth is a highly trained and productive labor force, which is preconditioned for the high rates of investment and capacity expansion that made rapid export growth possible. The success story of Korea demonstrates the importance of a government's export push policy and ability to foresee a major trend coordinate with complementary investments for education and vocational training together.

In conclusion, Turkey and other developing countries, which implemented policies of import substitution and industrialization behind high protection and isolated from international competition, failed to adopt policies suitable to rapid economic growth. The import substitution led to a financial instability, accelerating inflation, bitter industrial conflicts, and balance-of-payments crisis, which repeated itself regularly and ended with a military takeover and implementation of an "Economic Stabilization Program," imposed by the IMF and the World Bank seventeen times until March 2001.

Notes

1. A similar research work, but in a different context, was done by Anne Krueger (1987).

2. The Turkish experience has led to sizable recent literature and research works that are more important (see Celasun and Rodrik 1989; Krueger and Aktan 1992; Önis and James 1993).

3. Among numerous researches works published about the Korean economy, see, for example, Dornbusch and Park (1987), Kuznets (1988), Lau (1990), and Lee (1994).

4. Dornbusch and Park (1987) summarizes the growth, transformation, and success story of Korea since the early 1960s as a sustained, exceptionally high growth rate of output; a structural transformation of the economy, in terms of both output and employment, with a substantial decline in agriculture, a rise in manufacturing, and a growing importance of trade; a significant increase in public sector resources; a sustained high rate of investment; larger, but declining, external financing.

5. United Nations, *Yearbook of International Trade Statistics*, various dates.

6. Balassa (1965) originally developed the methodology—"Trade Liberalization and "Revealed Comparative Advantage"—and was refined thereafter.

7. For methodology, see Donges et al. (1982).

8. For details on the methodology and its analytical applications, see Finger and De Rosa (1979).

9. For more details, see Hufbauer and Chilas (1974) and Klodt (1990).

10. The results for Turkey and Korea could be distorted by trade policy interventions, especially in the form of tariff and nontariff barriers on imports and export subsidies on exports as well. Therefore, the results for both countries should be interpreted carefully.

11. See *OECD Surveys* for Turkey (1990–1991 and 1995, pp. 91 and 82, respectively).

References

- Balassa, B. 1965. "Trade Liberalization and 'Revealed' Comparative Advantage." *The Manchester School of Economic and Social Studies* 33, no. 2: 99–123.
- Bank of Korea. Various dates. "National Income Statistics." Seoul, Korea.
- Celasun, M., and D. Rodrik. 1989. "Debt, Adjustment and Growth: Turkey, Book IV." In *Developing Country Debt and Economic Performance: Country Studies*, vol. 3, ed. J. Sachs and S. Collins. Chicago: University of Chicago Press.
- Donges, B.J.; R.J. Langhammer; C.S. Thoroe; and K.W. Schatz. 1982. *The Second Enlargement of the European Community: Adjustment Requirements and Challengers for Policy Reform*. Tübingen, Germany: J.C.B. Mohr (Paul Siebeck).
- Dornbusch, R., and Y.C. Park. 1987. "Korean Growth Policy." *Brookings Papers on Economic Activity* 2: 389–444.
- Finger, J.M., and D.A. De Rosa. 1979. "Trade Overlap, Comparative Advantage and Protection." In *On the Economics of Intra-Industry, Symposium 1978*, ed. H. Giersch, pp. 213–240. Tübingen, Germany: J.C. Mohr (Paul Siebeck).
- HDTM. Various dates. "Main Economic Indicators." Prime Ministry Undersecretariat of Treasury and Foreign Trade (HDTM), Ankara.
- Hufbauer, C.G., and J.C. Chilas. 1974. "Specialization by Industrial Countries: Extent and Consequences." In *The International Division of Labour: Problems and Perspectives. International Symposium*, ed. H. Giersch, pp. 3–38. Tübingen, Germany: J.C.B. Mohr (Paul Siebeck).
- Klodt, H. 1990. "Technologietransfer und Internationale Wettbewerbs-fähigkeit" [Technology Transfer and International Competition]. *Aussenwirtschaft* 45, no. 1: 57–79.
- Krueger, A.O. 1987. "The Importance of Economic Policy in Development: Contrasts Between Korea and Turkey." NBER Working Paper No. 2195, Cambridge, MA.
- . 1990. "Asian Trade and Growth Lessons." *American Economic Review* 80, no. 2 (May): 108–112.
- Krueger, A.O. and O.H. Aktan. 1992. *Swimming Against Tide: Turkish Trade Reform in the 1980s*. International Center for Economic Growth Publications. San Francisco: ICS Press.
- Kuznets, P.W. 1988. "An East Asian Model of Economic Development: Japan, Taiwan, and South Korea." *Economic Development and Cultural Change* 36, no. 3 (April): 11–13.
- Lau, L.J. 1990. *Models of Development: A Comparative Study of Economic Growth and Taiwan*, revised and expanded edition. San Francisco: ICS Press.
- Lee, C.H. 1994. "The Economic Transformation of South Korea." Development Center Studies, Organization for Economic Cooperation and Development (OECD), Paris.
- Lee, H. 1995. "A Perspective on the Effects of NAFTA on Korea." Paper presented at the sixth annual East Asian Seminar on Economics and Regionalism, organized by NBER and Korean Development Institute (KDI), June 15–17, Seoul, Korea.
- Nam, C.H. 1993. "The Role of Trade and Exchange Rate Policy in Korea's Growth." KDI Working Paper No. 9308, Korea Development Institute, Seoul.
- OECD. Various dates. "Surveys for Turkey." Organization for Economic Cooperation and Development (OECD), Paris.
- Önis, Y.Z., and R. James. 1993. "Economic Crises and Long Term Economic Growth in Turkey." Comparative Macroeconomic Studies, World Bank, Washington, DC.
- Pilat, D. 1993. "Economics of Catch Up: The Experience of Japan and Korea." Groningen Growth and Development Center, Monograph Series No. 2, Groningen, Netherlands.
- State Planning Organization (DPT). 1964. "First Year Development Plan, 1963–1967." Ankara, p. 13.

- Togan, S. 1993. "Foreign Trade Regime and Trade Liberalization in the 1980s" [in Turkish]. Turkish EximBank Research Paper No. 1, Ankara.
- United Nations. Various dates. *Yearbook of International Trade Statistics*. New York: United Nations.
- World Bank. 2000. "World Development Report 1999–2000." Oxford: Oxford University Press.
- Young, A. 1994. "Lessons from the East Asian NICs: A Contrarian View." *European Economic Review* 38 (April): 964–973.

Appendix

SITC Classification

Raw Material-Intensified Goods (RMIG)

SITC 0 Food and Live Animals
SITC 2 Crude Materials Excluding Fuels
SITC 3 Mineral Fuels, etc.
SITC 4 Animal Fat and Vegetable Oil

Labor-Intensive Goods (LIG)

SITC 26 Textile Fibers and Waste
SITC 6 Basic Manufactured Goods
SITC 8 Miscellaneous Manufactured Goods

Capital-Intensive Goods (CIG)

SITC 1 Beverages and Tobacco
SITC 35 Electrical Energy
SITC 53 Dyes, Tanning, Color Production
SITC 55 Perfume, Cleaning, etc., Production
SITC 62 Rubber Manufactures N.E.S.
SITC 67 Iron and Steel
SITC 68 Nonferrous Metals
SITC 78 Road Vehicles

Easy Imitable Research-Oriented Goods (EIRG)

SITC 51 Organic Chemicals
SITC 52 Inorganic Chemicals
SITC 54.1 Medical and Pharmaceutical Products
SITC 58 Plastic Materials, etc.
SITC 59 Chemical Materials N.E.S.
SITC 75 Office Machines and Adapt Equipment

Difficult Imitable Research-Oriented Goods (DIRG)

SITC 7 Machines, Transport Equipment
SITC 87 Precision Instrument
SITC 88 Photo Equipment, Optical Goods, etc.